THE BIG BUSINESS
OF SMALLER COMPANIES

Inc.

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THE INC. 100
The fastest-growing small companies

What you should know about computer systems

A company president talks back to consultants

Succeeding in a market nobody wanted

Finding a merger you can live with

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CONTENTS

DEPARTMENTS

From the editor 7

Letters 11

Speaking out 18
Nader's fight with big business: It's a battle we can't afford.

Report from Washington 22
The small business snowball is slowly melting on Capitol Hill.

News & trends 24
Redefining "small" at the Small Business Administration; A 30-year struggle with the ICC; Small airlines scramble to meet demand; Goats, cows, and gasohol.

Ideas you can use 38
Guaranteed gasoline for van poolers; secretarial shortage drives up salaries; Exhibiting products at foreign fairs.

Forum 46
Two companies tell how SBA offices helped even the odds in disputes with the feds.

Legal briefs 116
How to interpret contract ambiguities; When does insurance liability end?; Contractor not liable for material specified by owner.

Taxes 122
Did you file an estimated tax form?; Escrow in installment sale upsets Uncle Sam; For FICA purposes, two corporations may be one; IRS readies crackdown on unreported income; Cattleman chalks up tax shelter victory.

From the business press 126

Books 138

Personal finance 140
Bullion craze could be taxing to coin collector; Soaring interest rates prime investors' pumps; Will you pass the "dividend" test?

Cover Photo
Steve Schmitt
Clothing by Brooks Brothers, Boston, MA

INC. 100 49
The fastest-growing small companies have all quadrupled sales in five years.

Finding a merger that's a perfect fit 60
You and your acquirer want to live happily ever after. That's why compatibility is more important than price.

The longer you wait for cash, the less it's worth 65
Money received in the future is worth less. Here's how to match tomorrow's dollars with today's value.

The nine per cent solution 73
Industrial revenue bonds are a low-cost way to finance new construction.

Track sales to control company growth 76
Sales were doubling annually, but Dranetz didn't know why. Now, a tracking system gives them accurate forecasts.

A small company president talks back to consultants 82
When you hire a consultant, do you get what you pay for? One CEO has his doubts.

Succeeding in a market nobody wanted 92
Oliver O. Ward makes the most of a technology in decline.

A manager's guide to computer systems 101
In part one of a three-part series, INC. tells you how a computer works and what it can do for your company.

Why MBO programs burn out 110
Management by objectives is a great idea that too often fizzles. But some simple steps can make it work.

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THE INC. 100

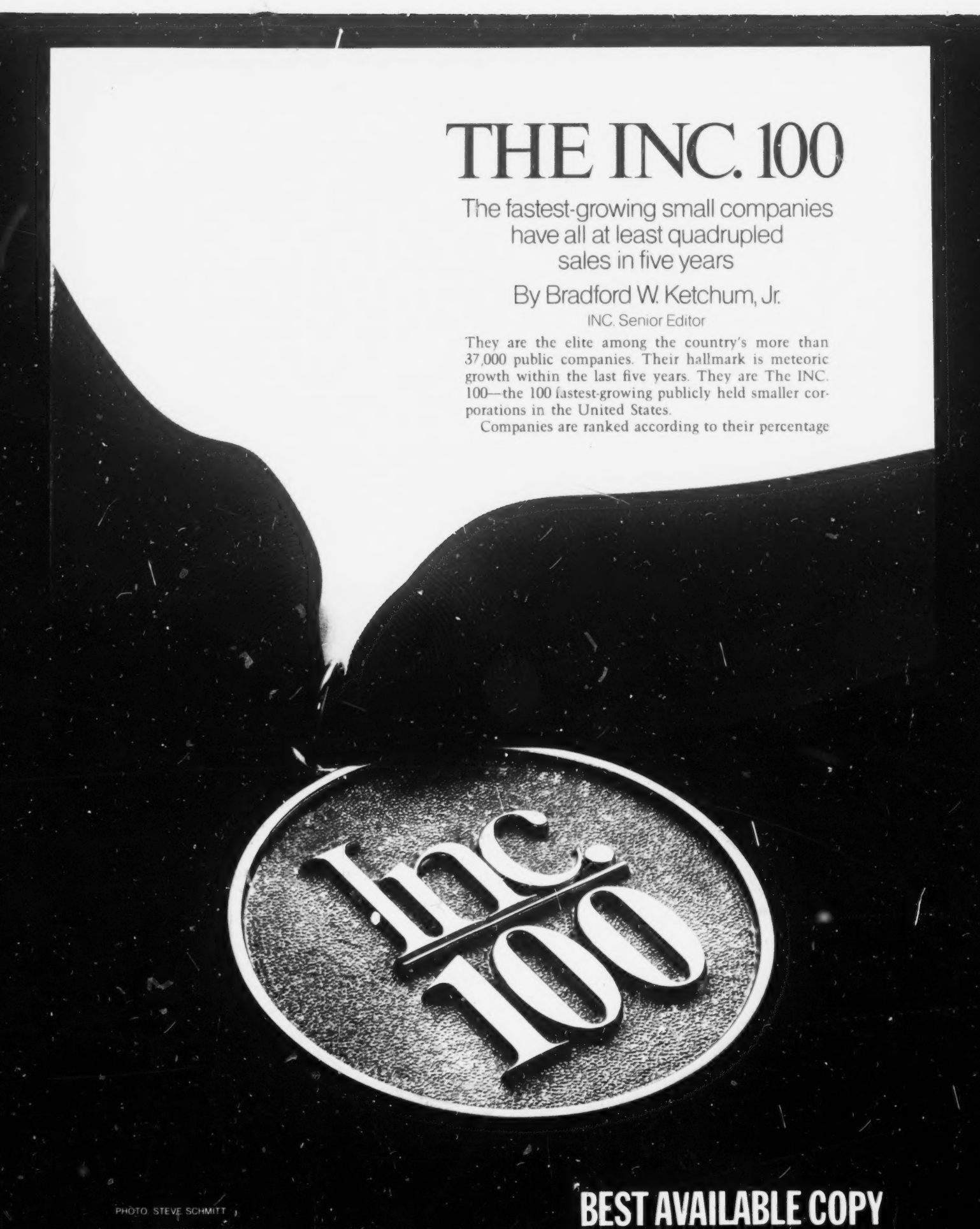
The fastest-growing small companies have all at least quadrupled sales in five years

By Bradford W. Ketchum, Jr.

INC. Senior Editor

They are the elite among the country's more than 37,000 public companies. Their hallmark is meteoric growth within the last five years. They are The INC. 100—the 100 fastest-growing publicly held smaller corporations in the United States.

Companies are ranked according to their percentage



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increase in sales/revenues, based on 1975 and 1979 fiscal year results. The exceptions are four firms that were little more than start-ups five years ago and hence had no revenues in 1975. For those, 1976 results are used as base figures. Testifying to the spectacular growth of The INC. 100, no company qualified for the listing that did not at least *quadruple* its sales within the past five years.

Led by a computer manufacturer and anchored by a petroleum producer, the fast-paced group boasts sales increases ranging from 321% to 9,534%. More than half the companies on the list have multiplied sales more than sevenfold since 1975. Five years ago, the 100 companies averaged $5.4 million in sales. None had sales of more than $22.5 million, and only 15 topped $10 million. Today, The INC. 100 average sales of $46.4 million, with 58 surpassing the $25-million mark.

The list, which includes 33 members of last year's roster (see box, below), represents a diverse range of manufacturing, mining, and service industries. It includes at least 14 manufacturers in the computer field, 9 oil and gas producers, several miniconglomerates, and 2 commercial airlines. Geographically, the group represents 28 states, although 5 states claim the majority. Not surprisingly, California is the front-runner with 18 companies, followed by New York, 12; Texas, 10; Massachusetts, 8; and New Jersey, 6.

Diverse as they are in interests

The INC. 100 Profile (1979)

No. of firms by industry	
Manufacturing	56
Services	29
Mining (including oil and gas)	12
Real estate and construction	3
Total sales ($ billion)	$4.64
Percent change (1975–79)	+753%
Total net income ($ million)	$292.7
Percent change (1975–79)	+1,843%
Mean sales in 1975 ($ million)	$3.4
Mean sales in 1979 ($ million)	$29.8
Compound average annual sales growth (1975–79)	
Range	43%–358%
Mean	65%
Net profit as percent of sales	
Range	0.6%–20.5%
Mean	7.2%
No. acquiring other companies (1975–79)	48
No. incorporated since 1970	32
Total no. of employees	78,146

INC. 100 PERFORMANCE (1975-79)

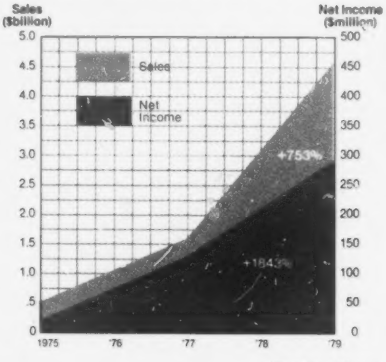

Chart: Dave Weston

HOW THE INC. 100 ARE SELECTED

To be included in The INC. 100, each company had to meet these criteria:

1. The company is an independent, publicly held corporation in a manufacturing, mining, or service industry. Utilities, banks, insurance companies, and other financial institutions are excluded.

2. The company's sales or revenues were less than $25 million in 1975.

3. The company shows a sales/revenues history of at least four years, with a demonstrated increase in its fiscal 1979 closing figure. Firms showing growth in the 1975–79 base period but a sales decline in the last year are excluded.

Sales and income figures were first gathered from prospectuses, annual reports, and various data bases and directories. Additional information was collected from stock reports, trade magazines, and general business publications. By applying the three criteria above, as well as a five-year growth rate of at least 200%—the benchmark established by the charter INC. 100—the number of companies that potentially quaiified for listing was pared to less than 1,000. An editorial team led by research editor Elyse Friedman then conducted telephone interviews with corporate executives to verify the figures. Finally, after more than 600 calls, the 1980 INC. 100 were selected.

WHAT HAPPENED TO LAST YEAR'S INC. 100?

Thirty-three of the 1979 INC. 100 graduated to the 1980 listing. Of those, 7 moved up in ranking and 2 retain the same position as last year. The other 24 relinquished higher rankings but remain members of an elite club where 600% growth in the past five years is more the rule than the exception.

What of the other 67 companies? Seven are no longer independent, having been acquired within the last year. They include Century 21, LRC, Microdata, Surgicot, Transnet, Tratec, and Welltech.

Four did not meet the basic criterion: sales of $25 million or less in the base year 1975. In this category are Federal Express, Mego International, Nytronics, and Pizza Inn—all of which have passed not only the $25-million mark but the $100-million mark in the past five years. Four others failed to meet another criterion—a demonstrated increase in the latest fiscal-year sales figures. They include Amdahl, Envirodyne, Med General, and Teleconcepts.

Fifty-one other charter INC. 100 companies grew in the new base period, but off the pace of this year's top 100. Noteworthy are the fourfold gains posted by Compact Video Systems (319%), Computer Communications (313%), Adobe Oil & Gas (310%), and Waters Associates (305%). Twenty-four others in this group tripled sales, and another 18 at least doubled their sales in the '75–79 base period.

Finally, five members of last year's group posted gains of only 72% to 96%—a rate of increase envied by the country's top 500 industrials.

That leaves one charter INC. 100 company unaccounted for—Teltronics Services (No. 35 last year). Succumbing to a barrage of creditor demands, the telephone equipment firm slipped into involuntary bankruptcy last year, becoming the sole casualty of the Class of '79.

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and location, what do The INC. 100 have in common besides public ownership and skyrocketing growth?

Youth. Thirty-two have incorporated since 1970; 82 have incorporated since 1960. On the average, The INC. 100 have been in business less than 14 years.

Innovation. The list represents a creative nucleus of brainstormers in both technology and marketing. It includes innovators in automation (Computervision), blood processing (Haemonetics), computers (Cado, Triad), contact lenses (Continuous Curve), drafting systems (Auto-trol), electronic surveillance (Knogo), fiber optics (Valtec), imaging equipment (ADAC, Matrix), radioactive waste disposal (Chem-Nuclear), and recreation (Thousand Trails).

Competition. Products of free enterprise themselves, The INC. 100 have accelerated competition in the country's fastest-growing industries. Once the start-ups, they are now the upstarts, outpacing their giant counterparts in the fields of business equipment, energy, environmental control, health care, and instrumentation. Their compound average annual sales growth since 1975 is indicative of their performance.

THE INC. 100

Rank '80	Rank '79	Company	Sales growth 1975–79 Increase	Sales growth 1975–79 Compound annual rate	Closing date	'79 Sales ($000)	'75 Sales ($000)
1	4	**Tandem Computers** (Cupertino, CA)	9,534%	358%	9/30	$ 55,974	$ 581[1]
2	5	**Cray Research** (Mendota Heights, MN)	8,292	338	12/31	42,715	509[1]
3	□	**NBI** (Boulder)	7,826	198	6/30	13,236	167
4	□	**Thousand Trails** (Seattle)	5,961	179	12/31	21,396	353
5	2	**Volunteer Capital** (Brentwood, TN)	5,119	169	12/31	51,878	994
6	□	**Cado Systems** (Torrance, CA)	3,629	234	12/31	28,044	752[1]
7	3	**Geneve** (Greenwich, CT)	3,520[4]	145	12/31	72,400[3]	2,000
8	□	**Floating Point Systems** (Portland, OR)	3,440	144	10/31	29,563	835
9	□	**DPF** (Hartsdale, NY)	2,464	125	5/31	577,749	22,537
10	□	**RSI** (Greenville, SC)	2,215	119	8/31	57,854	2,499
11	□	**Printronix** (Irvine, CA)	2,040	178	3/30	20,563	961[1]
12	11	**Texas American Oil** (Midland, TX)	1,884[4]	111	12/31	113,400[2]	5,716
13	□	**Acton** (Acton, MA)	1,513[4]	100	12/31	146,000[2]	9,052
14	1	**Sonic Industries** (Oklahoma City)	1,500	100	8/31	38,374	2,398
15	16	**Salem National** (Winston-Salem)	1,496	100	6/30	12,322	772
16	□	**Wespercorp** (Anaheim, CA)	1,448	149	6/30	7,923	512
17	17	**Econo-Therm Energy Systems** (Minnetonka, MN)	1,405	97	2/28	19,945	1,325
18	□	**Xonics** (Des Plaines, IL)	1,346	95	3/31	88,061	6,092
19	□	**Invesco International** (Atlanta)	1,272[4]	92	12/31	21,000[2]	1,531
20	12	**Prime Computer** (Wellesley Hills, MA)	1,243	91	12/31	152,943	11,387
21	□	**FSC** (Pittsburgh)	1,236	91	12/31	108,880	8,149
22	18	**Tomlinson Oil** (Wichita)	1,184	89	8/31	37,334	2,908
23	□	**Air Florida System** (Miami)	1,178	89	7/30	44,234	3,462
24	□	**First Artists Production** (Burbank, CA)	1,098	86	6/30	25,423	2,122
25	□	**Triad Systems** (Sunnyvale, CA)	1,095	86	9/30	30,805	2,576
26	□	**Reeves Communications** (New York)	1,087	86	6/30	30,502	2,570
27	□	**Telecom Equipment** (Long Island City)	960	80	12/31	24,617	2,323
28	22	**Rolm** (Santa Clara, CA)	915	78	6/29	114,455	11,277
29	□	**Shopsmith** (Vandalia, OH)	914	78	3/31	16,065	1,585
30	□	**Commodore** (Syracuse, IN)	886	77	6/30	150,478	15,261
31	□	**Valtec** (West Boylston, MA)	847	75	12/31	62,884	6,639
32	□	**Chuck Barris Productions** (Hollywood, CA)	834	75	5/31	31,501	3,373
33	□	**Data Terminal Systems** (Maynard, MA)	833	75	1/31	69,355	7,434
34	15	**Carlsberg Capital** (Santa Monica, CA)	824	74	5/31	55,152	5,966
35	39	**Rampart General** (Santa Ana, CA)	795	73	3/31	21,066	2,354
36	□	**Kenai** (New York)	792	73	1/31	47,260	5,300
37	□	**Chem-Nuclear Systems** (Bellevue, WA)	786	73	7/31	26,600	3,003
38	□	**Allied Technology** (Troy, OH)	768	72	6/30	35,269	4,062
39	□	**Silco** (Dallas)	747[4]	71	12/31	30,000[2]	3,542
40	□	**Cullinane** (Wellesley, MA)	747	71	4/30	13,927	1,645
41	□	**Quality Care** (Rockville Centre, NY)	723	69	11/30	28,225	3,430
42	9	**Lear Petroleum** (Dallas)	718	69	9/30	78,314	9,576
43	84	**Trans Delta** (Fort Worth)	707	69	9/30	6,741	835
44	□	**Decision Systems** (Mahwah, NJ)	689	68	4/30	8,387	1,063
45	□	**Data Access Systems** (Blackwood, NJ)	681	67	8/31	28,153	3,603
46	□	**Excepticon** (Lexington, KY)	677	67	6/30	10,827	1,394
47	□	**Siltec** (Menlo Park, CA)	665	66	12/31	43,600	5,700
48	□	**Continuous Curve Contact Lenses** (San Diego)	659	66	4/30	21,191	2,792
49	20	**Jhirmack Enterprises** (Redding, CA)	650	66	4/30	21,570	2,875
50	50	**Dranetz Engineering Laboratories** (South Plainfield, NJ)	635	65	12/31	11,895	1,618

[1] Based on estimated sales. [1]1976 figure; no revenues in 1975. [2]Company estimate. [3]INC. estimate. [4]9-month figure. [5]Based on 9-month figures.

Among INC. 100 companies in the health care, energy, and computer industries, for example, median compound annual growth rates range from 52% (health care) to 144% (computers). Among the blue-chip leaders in the same industries, the medians range from 16% to 22%. The INC. 100 as a whole posted a five-year compound average annual sales growth of 70.9%.

Productivity. While total sales among the nation's 500 largest industrials rose less than 60% between 1975 and 1979, The INC. 100 exploded with a gain of 753%.

Using sales per employee as a yardstick, the smaller growth companies pumped out greater volume per worker than many of their giant counterparts. The median sales output in the computer industry, for example, is about $46,300 per employee. The INC. 100 figure: $64,177. Similarly, producers of electronic instruments punch out about $45,000 per employee vs. the INC. median of $58,689. Among the 100 companies overall, sales per employee averaged more than $59,000, hitting a mean of $60,053.

Profitability. From 1975 through 1979, total net income soared

'79 Net income ($000)	'75 Net income ($000)	'79 Net income as % of sales	No. of employees	Acquisitions '75–'79	Date inc.	CEO	Business description
$ 4,920	$ (646)	8.8%	848	No	1974	J. G. Treybig	Mfr. multiple processor computer systems
7,819	(887)	18.3	524	No	1972	S. R. Cray	Mfr. large-scale computers
1,651	(7)	12.5	311	No	1973	T. S. Kavanagh	Mfr. word processing systems
2,790	(49)	13.0	394	No	1969	M. G. Kuolt II	Develops/operates campground resorts
1,734	189	3.3	3,750	Yes	1971	Earl Beasley, Jr.	Fast-food franchisee, fast-food chain
2,526	(107)[1]	9.0	97	No	1973	B. A. Lay	Mfr. small business computer systems
2,600[4]	400	4.8[5]	1,200	Yes	1971	R. J. Armstrong	Metal fabrication; molded plastics; mail order
2,008	(13)	6.8	646	No	1970	C. N. Winningstad	Mfr. special-purpose computers
13,671	4,860	2.4	11,000	Yes	1961	B. J. Cohn	Computer leasing; wholesale baking
3,010	(1,177)	5.2	750	Yes	1972	C. C. Guy	Mfr. turf equip., heat transfer equip.; 3 motels
1,840	(96)	8.9	420	No	1974	R. A. Kleist	Mfr. computer line printers
2,285[4]	692	2.8[5]	172	Yes	1955	W. F. Judd	Oil & gas exploration, production, refining
5,500[2]	176	3.8	2,400	Yes	1960	S. J. Phillips	Mfr. snack foods; owner/operator cable TV
1,822	265	4.7	66	No	1973	M. D. Jirous	Restaurant equip. sales, operation, franchising
(383)	27	NA	140	No	1968	K. G. Langone	Leases truck tractors & trailers
845	30	10.7	135	No	1975	Randy Knapp	Mfr. controllers for mini- & microcomputers
(862)	(218)	NA	445	Yes	1961	M. F. Myers	Mfr. process & waste disposal systems
(11,490)	(1,297)	NA	1,000	Yes	1970	C. F. Haverty	Mfr. medical imaging products
(693)[4]	404	NA	150	No	1971	B. R. Davis	Coal mining
16,940	692	11.1	2,570	No	1972	K. G. Fisher	Mfr. computers & software packages
6,181	(3,204)	5.7	2,000	Yes	1969	G. G. Garland, Jr.	Mfr. equip. & chemicals for dry cleaning; refiner
3,674	(233)	9.8	46	No	1957	W. E. Tomlinson	Oil & gas exploration, production, refining
2,413	(718)	5.5	1,127	Yes	1972	C. E. Acker	Commercial airline
493	(33)	1.9	186	Yes	1969	E. E. Holly	Producer of movies and TV shows; mfr. shirts
3,297	172	10.7	480	No	1972	William Stevens	Mfr. microcomputer systems
2,288	194	7.5	238	Yes	1969	M. H. Green, Jr.	Producer/distributor of movies for TV & cinema
1,006	(426)	4.1	400	No	1970	S. R. Cohen	Designs/markets private telephone systems
11,343	582	9.9	2,239	Yes	1969	M. K. Oshman	Mfr. computers & telephone switching systems
738	127	4.0	520	No	1972	J. R. Folkerth	Mfr. power woodworking tools
4,040	(2,270)	2.7	3,000	Yes	1952	R. J. Gans	Mfr. mobile homes & recreational vehicles
3,569	158	5.7	965	Yes	1967	F. M. Drendel	Mfr. coaxial cable, fiber optics, lasers
5,244	83	16.6	100	No	1965	Chuck Barris	TV & film production ("Gong Show")
13,980	631	20.2	1,138	Yes	1970	R. F. Collings	Mfr. electronic terminals & cash registers
5,253	386	9.5	400	Yes	1955	R. P. Carlsberg	Financial services; real estate; construction
948	(25)	4.5	160	No	1966	W. V. Harris, Jr.	Mfr. fireplaces; residential housing
3,894	363	8.2	800	Yes	1973	Joel Friedman	Oil & gas exploration; oil field equip.
2,982	240	11.2	300	Yes	1969	B. W. Johnson	Radioactive disposal sites, waste transport
(858)	250	NA	400	Yes	1946	D. F. Aldrich	Subcontract mfr. electronic/electrical products
1,000[2]	39	3.3	750	Yes	1963	Stuart Hunt	Photoprocessing & finishing; land development
1,794	215	12.9	185	Yes	1968	J. J. Cullinane	Designs/markets software packages
514	126	1.8	550	Yes	1969	D. A. Scheinman	Provides home health care services
5,007	362	6.4	161	Yes	1968	M. W. Woodard	Oil & gas exploration, production
(132)	182	NA	22	No	1959	S. P. Thurner	Oil & gas exploration, development
251	154	3.0	200	Yes	1960	Geo. Morgenstern	Computer software; micrographic retrieval sys.
3,415	424	12.1	245	Yes	1969	G. R. Cicconi	Supplier of data terminals & peripheral equip.
447	80	4.1	760	Yes	1969	John Swann	Residential care for retarded & disabled persons
2,600	212	6.0	800	Yes	1969	Robert Lorenzini	Mfr. silicon ingots & wafers, semicon. equip.
2,716	394	12.8	840	Yes	1960	Donald Brucker	Mfr. contact lenses & accessory care products
3,661	114	17.0	250	No	1968	Irene Redding	Mfr. hair & skin care products
1,663	13	14.0	200	No	1962	A. I. Dranetz	Mfr. electronic instruments & instrumentation

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1,843%. Earnings multiplied more than fourfold in 69 cases. While 31 companies found red ink on their P&L's in 1975, only 8 were battling deficits at the end of fiscal '79. More important, 84 companies posted gains in net income last year, with net profit as a percent of sales registering a respectable mean of 7.2%.

Internal growth. The majority of INC. 100 companies expanded internally during 1975–79, although the trend toward acquisitive activity among smaller companies appears to be increasing. Acquisitions played a role in the growth of 48 companies, up from the 35 who reported acquisitions last year. Most notable on the list of buyers is DPF Inc. (No. 9), which closed fiscal '75 with sales of $22.5 million. Shortly into fiscal '76, the company acquired Interstate Brands Corp. in a $34.2-million cash transaction. Sales of the diversified food processing and computer leasing firm now top $500 million.

Other companies have engineered multiple acquisitions during the past five years. Among the most active are Acton, Anacomp, Com-

THE INC. 100 *(continued)*

Rank '80	Rank '79	Company	Sales growth 1975–79: Increase	Sales growth 1975–79: Compound annual rate	Closing date	'79 Sales ($000)	'75 Sales ($000)
51	□	**Petroleum Equipment Tools** (Houston)	635	65	12/31	58,134	7,911
52	□	**Auto-trol Technology** (Denver)	594	62	12/31	33,540	4,835
53	38	**Wainoco Oil** (Houston)	576*	61	12/31	25,000	3,698
54	□	**UniShelter** (Greenfield, WI)	568	61	4/30	16,700	2,500
55	□	**United Telecommunications** (Latham, NY)	565	61	12/31	20,816	3,130
56	□	**American Management Systems** (Arlington, VA)	547*	59	12/31	46,841[3]	7,238
57	□	**Emerson Radio** (Secaucus, NJ)	544	59	3/31	74,177	11,517
58	□	**GranTree Corp.** (Portland, OR)	529	58	10/31	83,081	13,218
59	□	**Southwest Airlines** (Dallas)	508	57	12/31	136,114	22,372
60	□	**Computervision** (Bedford, MA)	508	57	12/31	131,500	21,645
61	25	**Western Standard** (Riverton, WY)	502	57	12/31	3,158	525
62	□	**Gulf Energy & Development** (San Antonio)	499	56	12/31	54,589	9,115
63	□	**ADAC Laboratories** (Sunnyvale, CA)	487	56	9/30	12,923	2,201
64	□	**Chessco Industries** (Fairfield, CT)	464	54	6/29	13,592	2,410
65	□	**Heritage Communications** (Des Moines)	460*	54	12/31	15,000[2]	2,679
66	□	**Computer Network** (Washington, DC)	450	53	3/31	21,005	3,822
67	□	**Superior Foods** (Dallas)	448	53	8/31	33,422	6,096
68	□	**Paradyne** (Largo, FL)	434	52	12/31	41,441	7,765
69	46	**Computer Task Group** (Buffalo)	430*	52	12/31	18,000[2]	3,398
70	26	**Galveston-Houston** (Houston)	428	52	12/31	110,854	20,980
71	□	**MetPath** (Teterboro, NJ)	427	52	9/30	78,000	14,800
72	36	**Verbatim** (Sunnyvale, CA)	426	51	6/30	35,685	6,786
73	□	**Data Card** (Minnetonka, MN)	424	51	3/31	44,400	8,467
74	□	**Berry Industries** (Long Beach, CA)	415	51	12/30	21,615	4,200
75	□	**Haemonetics** (Braintree, MA)	407	50	3/31	14,429	2,846
76	81	**Penril** (Rockville, MD)	404	50	7/31	22,692	4,504
77	□	**Survival Technology** (Bethesda, MD)	394	49	7/31	11,717	2,374
78	□	**Liberty Homes** (Goshen, IN)	384	48	12/31	109,198	22,542
79	□	**Interface Mechanisms** (Lynnwood, WA)	384	48	3/31	6,716	1,388
80	51	**U.S. Surgical** (Norwalk, CT)	375	48	12/31	60,876	12,822
81	□	**Continental Resources** (Bedford, MA)	374	48	12/31	13,837	2,920
82	70	**PaR Systems** (St. Paul)	372	47	4/30	11,355	2,408
83	□	**Varadyne Industries** (Santa Monica, CA)	357	46	6/30	10,050	2,198
84	□	**American Medical Buildings** (Milwaukee)	357	46	12/31	26,983	5,903
85	82	**Robinson-Nugent** (New Albany, IN)	352	46	6/30	22,573	4,999
86	□	**Documation** (Melbourne, FL)	351	46	2/2	58,720	13,011
87	□	**American Nucleonics** (Westlake Village, CA)	350	46	8/31	4,500	1,000
88	□	**Knogo** (Hicksville, NY)	347	45	2/28	11,221	2,512
89	95	**CPT** (Hopkins, MN)	345	45	6/30	34,071	7,660
90	59	**Save-Way Industries** (Hialeah, FL)	344	45	12/31	41,762	9,402
91	67	**Techtran Industries** (Rochester, NY)	338	45	8/31	4,551	1,040
92	□	**Matrix** (Northvale, NJ)	334	44	8/31	13,950	3,214
93	□	**Comshare** (Ann Arbor)	331	44	6/30	53,000	12,300
94	□	**Ann Stevens** (New York)	330	44	6/30	6,398	1,487
95	□	**Crown Industries** (Tampa)	328	44	9/30	63,543	14,852
96	71	**Anacomp** (Carmel, IN)	327	44	6/30	38,118	8,922
97	54	**International Research & Development** (Mattawan, MI)	326	44	12/31	14,012	3,291
98	□	**National Micronetics** (West Hurley, NY)	324	43	6/30	19,657	4,641
99	29	**Winston Network** (New York)	322*	43	12/31	32,796[3]	7,778
100	24	**Golden Oil** (Denver)	321	43	6/30	2,225	528

* Based on estimated sales. [1]1976 figure; no revenues in 1975. [2]Company estimate. [3]INC. estimate. [4]9-month figure. [5]Based on 9-month figures.

share, Geneve, and Reeves. Last August, Data Access Systems (No. 45 on this year's list) absorbed Transnet (No. 13 on last year's list).

As with any ranking of elite companies, The INC. 100 raises curiosity about the firms that were disqualified and those that finished as runners-up. Among companies disqualified, the most noteworthy are those eliminated because of their rapid growth. Federal Express, Mego International, Nytronics, and Pizza Inn, for example, all qualified for last year's listing based on 1974 sales of less than $25 million. By 1975, however, their revenues had soared beyond the $25-million limit.

Others disqualified include those recently acquired by other companies. They testify to the growing interest in emerging companies as takeover targets. Among examples are several charter members of The INC. 100. Century 21, acquired by Trans World; Microdata, merged into McDonnell Douglas; Surgicot, now part of Squibb; and Welltech, acquired jointly by Hanna Mining and Bechtel. The takeovers will con-

'79 Net income ($000)	'75 Net income ($000)	'79 Net income as % of sales	No. of employees	Acquisitions '75–'79	Date inc.	CEO	Business description
8,129	1,095	14.0	823	Yes	1967	D. M. Johnson	Rents equip. & tools to oil & gas drillers
3,438	350	10.3	540	No	1962	D. E. Smith	Mfr. computer-based design & drafting systems
6,015	1,132	24.1	234	No	1949	J. B. Ashmun	Oil & gas exploration, production
721	1	4.3	28	No	1961	J. A. Moseler	Residential developer; builder & Realtor
803	89	3.9	384	No	1959	S. B. Ringel	Sells & services private telephone systems
1,414[4]	133	4.0[5]	1,000	No	1970	C. O. Rossotti	Computer applications, services; EDP consultant
3,151	(870)	4.2	500	No	1977	Stephen Lane	Mfr. home entertainment products
2,443	335	2.9	1,650	Yes	1959	W. M. Treece	Furniture rental & related retail sales
16,652	3,400	12.2	1,630	No	1967	H. D. Putnam	Commercial airline
12,960	(4,134)	9.9	2,200	No	1969	Martin Allen	Mfr. automation systems & software
137	(75)	4.3	250	No	1955	Roy Peck	Mineral exploration; resort facilities
5,552	1,161	10.2	185	No	1957	B. J. Beard	Oil & gas production; gas pipeline
1,278	(99)	9.9	247	No	1970	C. W. Cantoni	Mfr. computerized image processing systems
415	(70)	3.1	175	Yes	1969	Louis Radler	Mfr. specialty chemicals
1,100[2]	(581)	7.3	400	Yes	1971	J. M. Hoak, Jr.	Operates cable TV systems; display advertising
1,462	(502)	7.0	239	No	1967	Lee Johnson	Data processing & telecommunications services
(280)	186	NA	380	Yes	1962	D. H. Neenach	Mfr. dough products; meat processor
4,117	(10)	9.9	950	No	1969	R. S. Wiggins	Mfr. electronic data communications equip.
293[4]	139	2.3[5]	515	No	1966	R. A. Marks	Data processing services
6,114	2,366	5.5	1,300	Yes	1936	N. M. Avery	Mfr. oil field equip.
1,150	1,560	1.5	2,235	Yes	1969	H. F. Enright	Clinical pathology & testing lab
2,344	520	6.6	1,543	No	1969	J. R. Anderson	Mfr. magnetic disk storage media
3,938	922	8.9	1,400	Yes	1969	W. K. Drake	Mfr. embossing equip. for plastic cards
272	(433)	1.3	450	Yes	1962	Arne Kalm	Oil field equip. & services; oil exploration
1,128	319	7.8	385	No	1971	G. F. Kingsley	Mfr. blood processing systems
1,453	837	6.4	570	Yes	1971	K. M. Miller	Mfr. devices for electronic signals
1,711	(433)	14.6	200	Yes	1969	Stanley Sarnoff	Mfr. injection devices, pharmaceutical items
5,104	(590)	4.7	1,000	No	1941	E. J. Hussey	Mfr. mobile homes
1,052	89	15.7	230	No	1969	D. C. Allais	Mfr. label printing & reading devices
5,138	889	8.4	902	Yes	1975	L. C. Hirsch	Mfr. surgical products, electronic monitors
765	83	5.5	180	No	1962	James McCann, Sr.	Rents, sells, services computer peripherals
915	139	8.1	240	No	1961	Karl Neumeier	Mfr. remote handling equip.
(289)	(360)	NA	400	No	1959	Russell DuBois	Mfr. ceramic capacitors & resistors
1,086	156	4.0	75	No	1965	J. W. Checota	Designs/builds medical buildings
2,927	130	13.0	325	No	1956	S. C. Robinson	Mfr. electromechanical components
6,358	1,600	10.8	1,980	Yes	1970	S. R. Halbert	Mfr. computer card equip. & line printers
481	(173)	10.7	90	No	1963	W. L. Foley	Mfr. antennas, electronic components
1,896	173	16.9	248	No	1966	A. J. Minasy	Mfr. electronic article surveillance systems
3,515	654	10.3	451	No	1971	D. F. Scheff	Mfr. word processing machines
4,628	423	11.1	265	No	1963	Belvin Friedson	Mfr. barber & beauty supplies & appliances
140	6	3.1	104	Yes	1971	D. L. Decker	Mfr. computer terminals
1,165	216	8.4	250	Yes	1957	F. G. Bishop	Mfr. medical imaging equip. & graphics cameras
4,374	755	8.3	1,100	Yes	1966	R. L. Crandall	International computer services
281	37	4.4	33	No	1958	Gerald Goldman	Mfr. women's skirts & sportswear
2,147	768	3.4	775	Yes	1950	Robert Dressler	Mfr. building products, agricultural equip.
2,653	876	7.0	900	Yes	1968	R. D. Palamara	Computer & data processing services
890	349	6.4	500	No	1970	F. X. Wazeter	Consultants in toxicology & drug evaluation
2,265	(227)	11.5	800	No	1969	N. W. Buoymaster	Mfr. disk drive components
813[4]	(233)	3.3[5]	400	Yes	1968	Irwin Winston	Sells/services transit & poster advertising
14	28	0.6	5	No	1970	A. M. Alloway	Oil & gas exploration

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tinue with the acquisition of Waters Associates (No. 44 last year) by Millipore this month. First among the new crop of 100 firms to tie the corporate knot will be Continuous Curve Contact Lenses (No. 48), slated to become part of Revlon in August.

Also noteworthy among those disqualified are three top performers from last year's listing: Amdahl (No. 6 in '79), Envirodyne (No. 10), and Teleconcepts (No. 23). While the trio posted five-year sales gains ranging from 455% to 1,981%, sales volume in each case slipped last year, making them ineligible for listing.

The runners-up include a dozen companies that have quadrupled sales and more than 50 that have tripled their volume since 1975. However, all ranked lower than the 321.4% gain registered by No. 100 Golden Oil. At press time, No. 101 was Brigadier Industries Corp., a Thomson, Ga., maker of mobile homes, with sales of $67.6 million (up 321.2%).

Will The INC. 100's spectacular growth continue? How will the country's fastest-growing smaller companies fare in the inflated '80s? Those are questions that INC.'s 1981 ranking will begin to answer. □

Top 20 Performers: How Productive, How Profitable?

1979 Profitability
(Net income as % of sales)

Rank	Firm (INC. 100 Rank)	Net income as % of sales
1.	Wainoco Oil (53)	24.1
2.	Data Terminal Systems (33)	20.2
3.	Cray Research (2)	18.3
4.	Jhirmack Enterprises (49)	17.0
5.	Knogo (88)	16.9
6.	Chuck Barris Productions (32)	16.6
7.	Interface Mechanisms (79)	15.7
8.	Survival Technology (77)	14.6
9.	Dranetz Engineering Labs. (50)	14.0
10.	Petroleum Equipment Tools (51)	14.0
11.	Thousand Trails (4)	13.0
12.	Robinson-Nugent (85)	13.0
13.	Cullinane (40)	12.9
14.	Continuous Curve Contact Lenses (48)	12.8
15.	NBI (3)	12.5
16.	Southwest Airlines (59)	12.2
17.	Data Access Systems (45)	12.1
18.	National Micronetics (98)	11.5
19.	Chem-Nuclear Systems (37)	11.2
20.	Save-Way Industries (90)	11.1

1979 Productivity*
(Sales per employee)

Rank	Firm (INC. 100 Rank)	Sales per employee
1.	Sonic Industries (14)	$581,424
2.	Cado Systems (6)	289,113
3.	Ann Stevens (94)	193,879
4.	Save-Way Industries (90)	157,592
5.	Emerson Radio (57)	148,354
6.	First Artists Production (24)	136,683
7.	Rampart General (35)	131,663
8.	Reeves Communications (26)	128,160
9.	Data Access Systems (45)	114,910
10.	Liberty Homes (78)	109,198
11.	Chem-Nuclear Systems (37)	88,667
12.	Allied Technology (38)	88,173
13.	Xonics (18)	88,061
14.	Superior Foods (67)	87,953
15.	Computer Network (66)	87,887
16.	Jhirmack Enterprises (49)	86,280
17.	Galveston-Houston (70)	85,272
18.	Southwest Airlines (59)	83,506
19.	Crown Industries (95)	81,991
20.	Winston Network (99)	81,990

* Does not include capital-intensive oil and gas developers or companies whose primary business is leasing or real estate.

INC 100/Index

Trading	Company (Rank)
AMEX	Acton Corp. (13)
OTC	ADAC Laboratories (53)
OTC	Air Florida System (23)
OTC	Allied Technology (38)
OTC	American Management Systems (56)
AMEX	American Medical Buildings (84)
OTC	American Nucleonics (87)
OTC	Anacomp* (96)
OTC	Auto-trol Technology (52)
OTC	Barris Productions, Chuck (32)
OTC	Berry Industries (74)
OTC	CPT Corp.* (89)
OTC	Cado Systems (6)
OTC	Carlsberg Capital* (34)
OTC	Chem-Nuclear Systems (37)
OTC	Chessco Industries (64)
AMEX	Commodore Corp. (30)
OTC	Computer Network (66)
OTC	Computer Task Group* (69)
NYSE	Computervision (60)
OTC	Comshare (93)
OTC	Continental Resources (81)
OTC	Continuous Curve Contact Lenses (48)
OTC	Cray Research* (2)
AMEX	Crown Industries (95)
OTC	Cullinane (40)
NYSE	DPF Inc. (9)
AMEX	Data Access Systems (45)
OTC	Data Card (73)
NYSE	Data Terminal Systems (33)
OTC	Decision Systems (44)
NYSE	Documation (86)
OTC	Dranetz Engineering Labs.* (50)
OTC	Econo-Therm Energy Systems* (17)
NYSE	Emerson Radio (57)
OTC	Excepticon (46)
OTC	FSC Corp. (21)
OTC	First Artists Production (24)
OTC	Floating Point Systems (8)
OTC	Galveston-Houston* (70)
OTC	Geneve* (7)
OTC	Golden Oil* (100)
OTC	GranTree (58)
OTC	Gulf Energy & Development (62)
OTC	Haemonetics (75)
OTC	Heritage Communications (65)
OTC	Interface Mechanisms (79)
OTC	Intl. Research & Development* (97)
OTC	Invesco International (19)
OTC	Jhirmack Enterprises* (49)
AMEX	Kenai Corp. (36)
OTC	Knogo (88)
OTC	Lear Petroleum* (42)
OTC	Liberty Homes (78)
AMEX	Matrix (92)
AMEX	MetPath (71)
OTC	NBI Inc. (3)
OTC	National Micronetics (98)
OTC	PaR Systems* (82)
AMEX	Paradyne (68)
OTC	Penril* (76)
OTC	Petroleum Equipment Tools (51)
NYSE	Prime Computer* (20)
OTC	Printronix (11)
OTC	Quality Care (41)
OTC	RSI Inc. (10)
OTC	Rampart General* (35)
OTC	Reeves Communications (26)
OTC	Robinson-Nugent* (85)
NYSE	Rolm* (28)
OTC	Salem National* (15)
NYSE	Save-Way Industries* (90)
OTC	Shopsmith (29)
OTC	Silco (39)
OTC	Siltec (47)
OTC	Sonic Industries* (14)
NYSE	Southwest Airlines (59)
OTC	Stevens, Ann (94)
OTC	Superior Foods (67)
OTC	Survival Technology (77)
OTC	Tandem Computers* (1)
OTC	Techtran Industries* (91)
OTC	Telecom Equipment (27)
OTC	Texas American Oil* (12)
OTC	Thousand Trails (4)
OTC	Tomlinson Oil* (22)
OTC	Trans Delta* (43)
OTC	Triad Systems (25)
OTC	UniShelter (54)
OTC	United States Surgical* (80)
OTC	United Telecommunications (55)
OTC	Valtec (31)
OTC	Varadyne Industries (83)
OTC	Verbatim* (72)
OTC	Volunteer Capital* (5)
AMEX	Wainoco Oil* (53)
OTC	Wespercorp (16)
OTC	Western Standard* (61)
OTC	Winston Network* (99)
AMEX	Xonics (18)

*1979 INC. 100 OTC–Over-the-counter AMEX–American Stock Exchange NYSE–New York Stock Exchange